

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

- 1 1. (Withdrawn) A method for detecting molecules, the method comprising:
 - 2 a) determining the electronic status of a semi-conductor;
 - 3 b) establishing electronic communication between the molecules and
4 the semiconductor;
 - 5 c) subjecting the semi-conductor to energy influx;
 - 6 d) redetermining the electronic status of the semi-conductor.

Claims 2-27 (Canceled)

- 1 28. (Currently Amended) A method for manipulating biological material in vivo,
2 the method comprising:
 - 3 a) covalently attaching a semi-conductor to a first biological moiety via a
4 charge transfer intermediary to create a construct;
 - 5 b) inserting the construct into a living organism;
 - 6 c) allowing the construct to migrate to the biological material;
 - 7 d) creating a plurality of charges on the construct, wherein the size of the
8 charges and distances between the charges cause the biological material
9 to change in structure.

- 1 29. (Original) The method as recited in claim 28 wherein the biological mate
2 rial comprises molecules selected from the group consisting of nucleotides, nitrogenous
3 heterocyclic bases, amino acids, and combinations thereof.

- 1 30. (Original) The method as recited in claim 28 wherein the charges are

created by subjecting the construct to radiation.

31. (Currently Amended) The method as recited in claim 30 wherein the radiation has an energy ~~greater than~~ of approximately 1.6 eV.

32. (Currently Amended) The method as recited in claim 28 wherein the radiation has energy ranging from about 1.6 eV to ~~40~~ 3.2 eV.

33. (Original) The method as recited in claim 28 wherein the step of creating a plurality of charges further comprises subjecting the construct to radiation selected from the group consisting of white light, ultra violet light, X-rays or gamma rays, alpha rays, gamma rays, and combinations thereof.

34. (Original) The method as recited in claim 28 wherein the biological material is nucleic acid and the construct changes the nucleic acid by cleaving it.

35. (Original) The method as recited in claim 34 wherein the cleavage occurs when the semiconductor accumulates electrons from the first biological moiety.

35. (Currently Amended) The method as recited in claim 28 wherein the semiconductor is a metal oxide selected from the group consisting of TiO_2 , ZrO_2 , VO_2 , MnO_2 , NiO , ZnO , CuO , FeO , Fe_3O_4 and combinations thereof.

36. (Withdrawn) The method as recited in 1 wherein the biological molecule is nucleic acid having base sequences interspersed with guanine.

37. (Withdrawn) The method as recited in claim 30 wherein the source of radiation is a radioactive isotope selected from the group consisting of phosphorus-32,

3 iodine- 123, iodine-131, sulfur-35, selenium-75, technetium-99, yttrium-90 and combina-
4 tions thereof.

1 39. (Withdrawn) The method as recited in claim 37 wherein the radioactive
2 isotope is covalently attached to the semi-conductor.

1 40. (Withdrawn) The method as recited in claim 40 wherein the source of the
2 radiation is phosphorus-32.

3 41. (New) The method as recited in claim 30 wherein the radiation is
4 approximately 2 eV